CRITIQUE OF RECLAMATION PLAN

JACKPILE PAGUATE URANIUM MINE

ANACONDA MINERALS COMPANY

SUMMARY

The Pueblo of Laguna requested CERT to evaluate the adequacy of the subject reclamation plan. The plan was reviewed because the tribe is uncertain of the statements and environmental mitigation issues presented. Pursuant to CERT's review and evaluation, the reclamation plan was considered incomplete with respect to documenting evidence to support stated claims. In practice, statements or opinions are qualified with discussion or by referencing documents. In principle, the context of the set of objectives, purpose, and format of the plan reflects a good-faith effort by Anaconda.

This summary is organized to serve as a discussion document with the tribe for preparation for a subsequent meeting with Anaconda. The purpose of the Anaconda meeting is to enhance understanding between the tribe and Anaconda to achieve environmentally desirable reclamation results. After reviewing the plan, the following comments on issues pertaining to the reclamation plan have been prepared for the tribe's consideration.

AIR QUALITY

- The meteorological and total suspended particulates correctly address the parameters to be measured.
- Meteorological and air quality monitoring programs were not presented and discussed in sufficient detail.
  - The criteria used to site the existing monitoring sites need discussion or reference.
  - Particulate monitoring schedule and frequency of measurements are inconsistent with federal monitoring guidelines.
  - Quality assurance of monitoring programs consistent with EPA standards as well as data analysis and reporting procedures should be discussed or referenced.
- Air pollution emissions resulting from reclamation activities should be quantified, and procedures to minimize air impacts should be developed.
- A full discussion of past ambient air quality and meteorology monitoring data of the area should be presented.

- A comparison of the mine site and Paguate monitoring data should be analyzed.

HYDROLOGY

- Water quality and flow data should be presented in greater detail.
  - The impact of the mine on water quantity and quality should be discussed.
  - Data should be presented to support the statement that water degradation is caused by evapotranspiration.
  - The possibilities that contaminated groundwater from fractured aquifers may seep into surrounding good-quality aquifers should be addressed.
- More information is needed on the hydrologic properties of the Jackpile sandstone with respect to the mine site.
- More discussion is needed on the disposal of hazardous material and its potential impact on groundwater quality.
- The claim of "no significant adverse effects due to mining" regarding sedimentation of Mesita Reservoir requires further discussion than as presented.
- The relationship between backfilling three feet above the water recovery level of the pits and protection of water quality is not fully discussed.
- The accuracy of the determination of the groundwater recovery level should be addressed. The relationship between the recovery levels and the elevation of the nearby riverbeds should be explored.

RADIOLOGICAL CONCERNS

- Some supporting data and documentation should be provided or referenced on statements regarding radon and gamma background levels for the area and permanent structures.
- The document containing the radiological assessment of Mesita Reservoir should be provided for analysis.
- The claim of the exposed Jackpile sandstone on the highwall not constituting a radiological hazard should be clarified with respect to long-term land use of the area.
- o The anticipated groundwater quality in the area and influence on the water quality in the Rio Paguate and Rio Moquino should be discussed.

- The proposed method of using land adjacent to the railroad to determine the background gamma radiation is questionable. These adjacent areas should be defined and selected with respect to eliminating areas contaminated by fugitive dust and spills.

- References to ambient standards for radon gas for mining operations are not applicable to a reclaimed area and should be stricken or modified.

REVEGETATION

- The revegetation procedures and equipment are typical of normal revegetation programs.

- Follow-up procedures in the event of unsuccessful revegetation is good practice.

- The information relating to the evaluations of reclaimed areas and undisturbed sites, research results, and vegetation studies should be provided for review.

- The sources of information that erosion control and seeding methods are based upon should be made available.

OTHER ISSUES AND CONCERNS

- The continuation of environmental monitoring programs should be clarified with respect to determining the need for such and identifying who is responsible for monitoring.

- Supporting data with respect to pit wall stability evaluations should be referenced and a summary of findings presented.

- The statement "Environmental sampling and visual observation have shown no significant adverse effects to date upon the environment outside the boundaries of the mine..." is not supported by data or reference. This statement should be substantiated.

- Further studies are needed on waste dumps to define:

  - which dumps contain hazardous materials;

  - method of disposal and containment of dumps deemed to contain hazardous material; and

  - volume of suitable material available for backfill and plant growth medium.

- Support data on pit wall stability evaluation should be referenced or study results provided.

The general reclamation concepts in the plan appear to be acceptable but, due to the lack of supporting data and documentation, an appropriate evaluation cannot be made. It is indicated throughout the plan that several supporting studies have been performed or are ongoing. Some or much of the needed information is likely available.